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AUTHOR Poplack, Shana
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ABSTRACT

This study examines the interaction between the deletion of the nominal plural marker and the verbal plural marker in Puerto Rican Spanish. It seeks to establish whether: (1) marker deletion in the noun phrase and marker deletion in the verb phrase specifically constrain each other, or (2) the system of local concord noted for the noun phrase extends to the verb phrase as well, or (3) the noun phrase and the verb phrase act independently. In addition, the study investigates whether Spanish plural marking patterns are affected by long-term contact with English. The data consist of 2,426 sentences extracted from the recorded speech of 21 Puerto Rican residents of East Harlem, New York. About half the subjects were judged to be Spanish-dominant, and the others, balanced bilinguals. A variability of plural marking was found in conjunction with a tendency toward concord. It was also found that whether the noun phrase is inflected, uninflected or deleted has little effect on marker deletion from the verb, aside from the tendency toward concord when the noun phrase precedes the verb. With regard to bilinguals, generalization of the deletion rule to environments where its application had been comparatively infrequent was found to have an intra-systemic cause. It was not due to contact with English. (AMH)

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VARIABLE CONCORD IN SENTENTIAL PLURAL MARKING

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Language Policy Task Force

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Variable Concord in Sentential Plural Marking[1]

Shana Poplack
Language Policy Task Force
Center for Puerto Rican Studies

1. INTRODUCTION. Recent analyses of syllable-final segments which form the inflectional system in Puerto Rican Spanish (Poplack 1979a, 1980a, 1980b) have indicated that their variable deletion may be differentially constrained by phonological, structural and informational factors. In the case of the nominal plural marker (s), it was found that although its deletion from determiners, nouns and adjectives in the noun phrase did not occur if it threatened to make the sentence ambiguous, this possibility rarely occurred because of many types of contextual disambiguation. The main constraints on (s) deletion were phonolcgical and syntactic. The syntactic constraint was a quantitative tendency towards local concord: noun phrases tended to retain a marker on all their components, or more frequently, on none of them. The verbal plural marker (n) was found to be relatively rarely deleted, and its deletion was more strongly constrained by functional (i.e. informational) factors.

These variables have traditionally been studied in isolation, although there is some indication (Poplack

1979a, Ch. 6) that their behavior is interdependent according to functional criteria: analysis of individual speaker tendencies showed that speakers who delete a great deal of one of these variables tend not to delete the other as well.

The present study examines the interaction between (s) and (n) deletion processes in the same sentence while still taking account of other contextual indicators of plurality. I will seek to establish (i) whether marker deletion in the noun phrase and marker deletion in the verb phrase specifically constrain each other, (ii) whether on the other hand the system of local concord noted for the noun phrase extends to the verb phrase as well, such that deletion either co-occurs in the two constituents or is simultaneously blocked, or (iii) whether the noun phrase and the verb phrase act independently, subject only to the overall functional constraint against ambiguity.

An additional motivation for this work is to find whether Spanish plural marking patterns are affected by long-term contact with English, the language which is heard and used daily to some extent by the Puerto Rican speakers of East Harlem, New York, who form the sample

on which this report is based. I study this possible influence in two ways: 1) by comparing Spanish with English marking patterns, and 2) by comparing the speech of Spanish-dominant speakers with that of balanced bilinguals, under the assumption that any influence from English would be more apparent in the speech of those who report and are observed to use it as much as Spanish.

2. SPANISH AND ENGLISH PLURAL MARKING PATTERNS. Standard Spanish marks plurality redundantly across the noun phrase and repeats it in the verb phrase, where the verb must agree with its subject in person and number, as in (1).

(1) *Los padres los obligan a estudiar.* (22/109)[2]
'The parents make them study.'

This results in a good deal of inflectional redundancy within the sentence. Moreover, as we will see, almost every sentence, or its context, also contains non-inflectional indicators of plurality--morphological, lexical, syntactic and semantic--so that redundancy is even greater than would appear from the surface.

In comparing marking sequences in Puerto Rican Spanish with those of standard English, we first note that although English also has an agreement rule for plural marking, it is characterized by a lesser amount of surface

inflection than the Spanish rule. As may be seen in the translation of (1), English only marks plurality inflectionally on the noun.[3] Plural and singular verbs are differentiated only in the present tense, by marking the third person singular; the remaining verb forms are undifferentiated with regard to number. The standard English and Spanish marking sequences may be schematized as in (2a) and (2b) respectively.

(2a) Standard English marking sequence: ØSØ
(The parents make)

(2b) Standard Spanish marking sequence: SSN
(Los padres obligan)

But because both (s) and (n) are subject to deletion, we could also theoretically obtain, for a two-slot Spanish noun phrase, any of the eight sequences listed in (2c) after deletion has applied.

(2c) Possible Spanish marking sequences after deletion has applied:

SSN	SSØ
SØN	SØØ
ØØN	ØØØ
ØSN	ØSØ

Given these differences between Spanish and English in both amount and place of plural marking, were we to find that the patterns of such plural marking as is present in Spanish surface structure resemble the English

schema (ØSØ), or that balanced bilinguals delete markers from all constituents more frequently than those for whom English represents only a small portion of their productive competence, we might hypothesize that these results are due to influence from and convergence with English.

3. DATA AND METHODS. The data on which the following analyses are based consist of 2,426 sentences composed of a verb phrase and a preceding, following or deleted subject noun phrase. Each of these sentences was coded[4] for a number of factors which could potentially affect marker deletion. These included the phonetic realization of the marker on the verb, nature of the phonological segment following the marker, speech stress on that segment, morphological class of the verb in question and speech style in which the sentence was uttered. Multivariate analysis of the contribution of these factors to marker deletion confirms the results of earlier studies of the variable (n) in isolation (Poplack 1979a, 1980a), and will not be discussed further. Here I focus on the relationship between marker deletion and contextual indication of plurality before, after and within the sentence.

Four types of plural disambiguation other than inflection were distinguished in each of these contexts: morphological, syntactic, lexical and semantic.[5] In addition, those sentences including surface structure subject noun phrases were coded for place of the noun phrase with regard to the verb, presence and type of information within the noun phrase which could disambiguate plurality, and inflectional marking pattern in the noun phrase.

These data were extracted from the tape-recorded speech of 21 Puerto Rican residents of East Harlem, about half of whom were judged[6] to be Spanish-dominant and the others, balanced bilinguals. The sample was constructed in this way to investigate the influence of English on the Spanish of these speakers,[7] as described in detail elsewhere (Poplack 1979b, Pousada and Poplack 1979).

4. THE MARKING OF PLURALITY IN SPANISH SENTENCES. As noted above, a Spanish sentence may consist of a preposed, post-posed or deleted subject noun phrase and a verb phrase. The distribution of these sentence types is given in Table 1.

Sentence Type	%	Example
S → VP	58%	*Pelean.* 'they fight'
S → NP + VP	31	*Ellos pelean.* 'they fight'
S → VP + NP	10	*Pelean ellos.* 'they fight'
Total	2387	

Table 1. Distribution of sentence types in Puerto Rican Spanish.[8]

We will see in this section that these different types of sentence structure are associated with important differences in the transmission of plural information.

We note first from Table 1 that the preferred sentence type in Spanish consists of a bare verb phrase. Such a structure is presumably possible in Spanish, though not in English, because information as to person, number and tense is carried inflectionally in the verb ending. Yet 6% of the plural inflections are nonetheless deleted. How is plurality transmitted in cases such as these? For one thing, 87% of all sentences studied were accompanied in the discourse by preceding, following, or both preceding and following contextual indicators of plurality. (This is in addition to both inflectional and non-inflectional indicators of plurality within the sentence itself, which I discuss below.) Table 2 shows that the presence

and place of this disambiguating information in the discourse determines in large part the surface structure of the Spanish sentence.

Place of Information:	BEFORE SENTENCE	BOTH	AFTER SENTENCE	NONE
Deleted NP	75.1%	57.3%	14.7%	5.5%
Uninflected NP	15.2	29.6	47.1	53.5
Inflected NP	9.6	14.6	38.2	40.9
Totals	1296	659	136	325

Table 2. Presence and nature of noun phrase according to place of disambiguating information in the discourse.

The table shows that it is when the disambiguating information has already been given in the discourse that the surface representation of the sentence is most likely to consist only of a bare verb phrase. When the noun phrase is absent, the subject of the verb may have been pronominalized and deleted; in any event, it is only marked, it at all, by the verbal inflection. The co-referent of the pronoun or inflection is logically most likely to occur in a preceding sentence.

This situation is different when there is no such co-referent. Table 2 shows that a noun phrase tends to appear in surface structure when the plural information

to be transmitted by the sentence is new, i.e. either when there is no additional disambiguating information in the discourse, or when such information follows the sentence. Interestingly enough, given-new status affects noun phrase presence, but does not appear to constrain the noun phrase to be inflected, so that even when there is no other disambiguating information in the discourse, speakers produce only a slightly smaller proportion (57%) of uninflected noun phrases like (3a), rather than inflected noun phrases like (3c) than they do when such information precedes the sentence (61%). This despite the fact that (3a) is apparently ambiguous with the singular (3b).

(3a) Uninflected plural noun phrase:
laØ casaØ grandeØ 'the big houses'

(3b) Singular noun phrase:
la casa grande 'the big house'

(3c) Inflected plural noun phrase:
laS casaS grandeS 'the big houses'

Indeed, in only 39% of all noun phrases, many of which consisted of two or more elements, and hence two or more slots on which the plural could be marked, was plurality marked inflectionally at all. This can be explained by the fact that in the majority of the cases, plurality is conveyed in other ways, as may be seen in Table 3.

INDICATOR OF PLURALITY	%	TOKENS
INFLECTED NOUN PHRASE	39%	406
UNINFLECTED NOUN PHRASE		
Morphological	27	275
Lexical, semantic	24	251
Syntactic	.4	5
None	9	97
Total		1034

Table 3. Distribution of disambiguating information within overt noun phrases.

Table 3 shows that 91% of all overt noun phrases do in fact embody plural information in some form, regardless of whether they are inflected or not. This is true even for uninflected noun phrases in their overwhelming majority (85%), explaining why in Table 2 inflecting on the noun phrase is not particularly affected by the absence of other plural information in the discourse. These results point to the limited role played by the nominal inflection (s) in the transmission of plurality. Added support for this observation may be adduced from a more detailed examination of plural marking patterns within inflected noun phrases.

5. LOCAL CONCORD IN THE NOUN PHRASE. Studies of the behavior of the variable (s) have generally claimed that

when functioning as an inflection, (s) is categorically, or almost categorically, retained on at least the determiner, with the result of conveying plurality on the first, and ostensibly, most highly loaded element in the string (Ma and Herasimchuk 1968, Cedergren 1973, Terrell 1975a). However, as previously found in a study of another data base (Poplack 1979a), a large proportion of plural determiners is in fact uninflected in vernacular Puerto Rican Spanish. I suggested there that a rule of local concord seemed to operate within the noun phrase--one marker leading to more and zeros leading to zeros, so that noun phrase strings tended to consist either of several markers or of none. Table 4 shows a similar result for the East Harlem speakers.

NOUN PHRASE MARKING PATTERN	TOKENS	%
SØ	161	19.3%
ØØ	130	15.6
SS	94	11.2
ØS	17	2.0
Ø	312	37.4
S	120	14.3
Total	834	

Table 4. Proportions of various noun phrase marking patterns.

We see from Table 4 that there are almost as many sequences containing deleted inflections only (ØØ(Ø)),[9] as there are sequences beginning with an S[10] and deleting further inflections. This observation is supported by comparing deletion rates among noun phrases consisting of only one element ('S' and 'Ø' in Table 4) versus the rates for multi-element noun phrases. In the single-element noun phrases 2.6 times as many markers are deleted as are present. If there were no local concord we would expect to find about 2.6 times as many ØØ sequences as those consisting of ØS. However, there are 7.6 times as many of the former, indicating that the first zero influences the second marker to be deleted. If there were no concord, we should also expect to find 2.6 times as many sequences of the SØ type as of SS. However, there are only 1.7 times as many of the former, showing that the first S restrains the second marker from being deleted. Thus local concord operates both to repeat markers and to delete them.

6. LOCAL CONCORD ACROSS THE SENTENCE. An even more striking confirmation of this concord rule is found by examining plural marking patterns across the whole sentence (Table 5).

MARKING PATTERNS FOR:			TOKENS	OBS	EXP
2-slot Noun Phrase					
	NOUN PHRASE	VERB			
	* ØØ	N	111	(.278)	.240
	SØ	N	151	(.378)	.420
	* SS	N	86	(.215)	.162
	* ØØ	Ø	17	(.043)	.023
	ØS	N	14	(.035)	.092
	SØ	Ø	10	(.025)	.040
	* SS	Ø	8	(.020)	.015
	ØS	Ø	3	(.008)	.009
1-slot Noun Phrase					
	Ø	N	284	(.65[illegible])	.659
	S	N	114	(.264)	.254
	Ø	Ø	28	(.065)	.063
	S	Ø	6	(.014)	.024

Table 5. Proportions of various marking patterns on the sentence level, as observed and as predicted under the null hypothesis of no concord and no functional compensation.

Table 5 gives the observed frequencies and proportions of plural marking sequences, along with expected proportions for each. The expected values are calculated from the information in Table 6 under the hypothesis that deletion at any given position (determiner, noun or verb) is statistically independent of deletion at any other. Thus the expected proportion of the ØØN pattern is .363 x .722 x .913 = .240.

DETERMINER		NOUN		VERB	
Ø	S	Ø	S	Ø	N
.363	.637	.722	.278	.087	.913

Table 6. Proportion of deleted and retained plural markers on determiners, nouns, and verbs.

We note first from Table 5 that the differences between observed and expected values depend on whether or not local concord obtains in the noun phrase. For those sequences containing local concord (marked with an asterisk), we observe more sentences than would be expected under the hypothesis that marking in each slot proceeds independently of any other. Thus, we predict the sequence ØØN to represent only .240 of the data; in fact, it accounts for .278. When there is no local concord, we observe less than would be expected. This indicates that marking on the various slots of the noun phrase does not proceed independently, and that the concord effect is a true one, at least within the noun phrase. There is no clear indication from Table 5 of an extension of this effect into the verb phrase, though the increase of observed over expected is greater for SSN and ØØØ than for SSØ and ØØN. Before attempting an

explanation of this finding, we must consider the possibility that the different Spanish sentence types listed in Table 1 behave differently with regard to this tendency.

We thus examine the differential effects of pre-posed and post-posed subject noun phrases on local concord.

NOUN PHRASE MARKING PATTERN	% DELETED VERBAL (n)	
	NP + VP	VP + NP
ØØ	14% (13/91)	11% (4/35)
Ø	12 (27/233)	4 (2/56)
Total for Uninflected Noun Phrases	12 (40/324)	7 (6/91)
SØ	7 (8/114)	2 (1/44)
SS	7 (5/67)	13 (3/24)
S	6 (5/90)	3 (1/29)
ØS	23 (3/13)	0 (0/4)
Total for Inflected Noun Phrases	7 (21/284)	5 (5/101)

Table 7. Percentage of deleted verbal (n) according to different marking patterns in pre-posed and post-posed subject noun phrases.

Table 7 shows that the tendency toward local concord outlined above is extended into the verb phrase when the noun phrase occupies its canonical position preceding the verb. It is true that a large proportion of verbal markers (86-88%) is retained when markers are deleted

from the noun phrase, but this simply reflects the fact that (n) deletion is not very advanced as a phonological process. Indeed, the greatest rates of verbal (n) deletion occur precisely here, where there are no markers in the noun phrase. In fact, when the noun phrase is uninflected speakers are almost twice as likely to delete the verbal marker as when there is one or more markers in the nour phrase. On the other hand, although there is far less data in the verb phrase + noun phrase column, due to the fact that post-posed noun phrases occur only about a third as frequently as pre-posed noun phrases, most of the cells are sufficiently populated to indicate that local concord does not hold when the subject noun phrase follows the verb.[11]

The results, then may be explained by the variability of plural marking in conjunction with the tendency towards concord. Moreover, they suggest that the rule of concord, whether in inflecting or deleting, has become a syntactic rule which is independent of the semantic and functional considerations involved in surface inflectional marking. Comparing verbal marker deletion rates for various types of noun phrases (Table 8) provides further confirmation of this observation.

Type of Noun Phrase	% of Verbal (n) Deletion
Deleted	6%
Uninflected	9
Inflected	7
Total	2426

Table 8. Verbal marker deletion rates for three types of noun phrases.

Whether the noun phrase is inflected, uninflected or altogether deleted has little effect on marker deletion from the verb, aside from the tendency towards concord when the noun phrase precedes the verb. This indicates the relatively minor role inflections (especially nominal inflections) play in transmitting plurality.

7. SPANISH-DOMINANT VERSUS BILINGUAL SPEAKERS. We now examine the differences between Spanish-dominant and bilingual speakers. The initial hypothesis set up in Section 1 was that if the inflectional plural marking sequences of bilinguals resembled the English schema (ØSØ) more than the pattern of the Spanish-dominant speakers did, this might be due to influence from English.

Table 9 compares the observed and expected proportions of various plural marking patterns for bilingual and Spanish-dominant speakers.

MARKING PATTERNS FOR:		BILINGUAL			SPANISH-DOMINANT		
2-slot Noun Phrase:							
NOUN PHRASE	VERB	TOKENS	OBS	EXP	TOKENS	OBS	EXP
ØØ	N	54	(.391)	.357	57	(.218)	.185
SØ	N	49	(.355)	.368	102	(.389)	.443
SS	N	18	(.130)	.100	68	(.259)	.199
ØØ	Ø	9	(.065)	.031	8	(.031)	.018
ØS	N	4	(.029)	.096	10	(.038)	.083
SØ	Ø	2	(.014)	.031	8	(.031)	.044
SS	Ø	1	(.007)	.009	7	(.027)	.010
ØS	Ø	1	(.007)	.008	2	(.008)	.008
1-slot Noun Phrase:							
Ø	N	98	(.705)	.725	186	(.635)	.628
S	N	32	(.230)	.196	82	(.280)	.282
Ø	Ø	6	(.043)	.062	22	(.075)	.062
S	Ø	3	(.022)	.017	3	(.010)	.028

Table 9. Proportions of various plural marking patterns on the sentence level for bilingual and Spanish-dominant speakers.

The expected values were calculated from the information in Table 10, again under the null hypothesis that marking in any position proceeds independently of marking in any other.

BILINGUAL					
Determiner		Noun		Verb	
Ø	S	Ø	S	Ø	N
.492	.508	.787	.213	.079	.921
SPANISH-DOMINANT					
.294	.706	.690	.310	.090	.910

Table 10. Proportion of deleted and retained plural markers on determiners, nouns and verbs for bilingual and Spanish-dominant speakers.

What are the dissimilarities between the marking patterns of the Spanish-dominant and bilingual speakers? There are clearly different preferences between the two groups for the three most important sequences at the top of Table 9. Spanish-dominant speakers prefer marking on the determiner, deleting from the noun and marking on the verb (SØN), followed by the standard marking sequence SSN, and then by marking on the verb alone (ØØN). Bilinguals favor verbal marking alone, then marking on the determiner and the verb, and finally, the standard full concord form.

While there are distinctions in the observed

frequencies in Table 9 between Spanish-dominant and bilingual speakers, these parallel the differences in predicted (expected) values for the two groups. Now, the differences in expected values are, by construction, entirely due to the differences in the overall deletion rates in Table 10 for each grammatical category, determiner, noun and verb. Moreover, both groups show the same observed/expected discrepancies due to local concord.

How can these differences be interpreted in terms of attested patterns in other Caribbean dialects and/or comparison of English and Spanish? If one result has emerged consistently from different quantitative studies of (s) deletion in Caribbean dialects of Spanish and Brazilian Portuguese, it is that determiners, or elements in the first position of the string, are most conservative with regard to marker retention (Ma and Herasimchuk 1968, Cedergren 1973, Terrell 1975, Guy and Braga 1976, Scherre 1978), although by no means does retention operate categorically here, even in the functionally monolingual community (Poplack, in press), where markers were deleted from more than half the tokens in the first position in the noun phrase string. Though the greater rates of marker deletion from determiners on the part

of bilinguals may appear to be due to contact with English, which does not mark plurality inflectionally on this grammatical category, Table 10 shows that they also delete more markers from nouns and retain more on verbs than do the Spanish-dominant speakers, the opposite of what one would expect from English influence. Comparing determiner deletion rates of the monolingual Philadelphia Puerto Ricans, we find that they delete markers from this category at least 39% of the time,[12] a rate which is intermediate to the bilingual and Spanish-dominant behavior reported here. Moreover, studies of (s) deletion in other Caribbean dialects which have not been in long-term contact with English show that deletion rates in this context reach 52% among lower class Panamanian speakers and 90% among lower class Dominicans (Terrell 1980). On the other hand, deletion rates from the noun among the Philadelphia Puerto Ricans are closer to those of the bilinguals (77%) than the Spanish-dominant speakers.

The behavior of the bilinguals, then, appears to be due to the fact that they have generalized the deletion rule, which operates most frequently in nouns and adjectives, to a category, determiner, where its operation has been comparatively infrequent. The differences between expected and observed frequencies are the same for

Spanish-dominant and bilingual speakers, indicating that aside from these overall deletion rates there is no difference between the two groups. In particular, the differences in pattern frequencies should not be attributed to influence from English; none of the sequences involved is congnate with English. The actual English sequences ØSØ (*The parents make*) and SØ (*Parents make*) are almost non-existent in the Spanish of these speakers, representing less than 1% of the data for both groups.

Of course, standard English is not the only influence on Puerto Rican speech. It has been observed in this community (Pedraza ms.) and shown in others (e.g. Labov et al. 1968, Wolfram et al. 1971, Wolfram 1974; Poplack 1978) that Black English may also be a factor. The concord rule in Black English is also variable, largely due to -s deletion and hypercorrect -s reinsertion on both nouns and verbs. However, the outcomes of these processes are not directly comparable. Black English hypercorrect -s insertion does not necessarily function as a plural marker, but rather results in neutralization of the singular/plural distinction in nouns as in (5), as well as in verbs (6).

(5) He went to Orchard Beach and he got a crabs. (10/37)

(6) See, they gets to stay out longer than we do. (14/39)

The only attested instances of hypercorrect -s insertion in Puerto Rican Spanish are used for humorous purposes, as in (7), a grandmother's comment on her granddaughter's careful reading style.

(7) *¡Ay, dios míos! ¡Qués hablas!* (D.H./1)
'Oh, my gods! Hows you speak!'

The high rate of (n) retention on Spanish verbs, in contrast, serves to reinforce, rather than nuetralize, the singular/plural distinction.

8. DISCUSSION. From the preceding analyses several points emerge. First, the Puerto Rican Spanish sentences I have investigated here show a tendency towards concord. The presence of a marker on one element of the noun phrase leads to markers on all elements, and this tendency extends beyond the noun phrase to the verb. But the use of these markers at all has become variable. Some phonetic manifestation of (s) in particular is far more likely to be absent than present in surface structure. In fact, each grammatical category has its own characteristic rate of marker deletion. Now, when the marker is deleted from the determiner it is more likely to be deleted from the remaining elements of the noun phrase as well, and if

there are no markers in the noun phrase, then this increases the likelihood that there will be none on the verb, either. Thus the tendency towards concord is expressed by the dependence of marker deletion rates on the presence or absence of markers in preceding constituents.

Extension of the concord rule, already noted for the noun phrase, into the verb phrase[13] should not surprise us if we recall first, that the standard Spanish plural concord rule is sentential, and second, that the overwhelming majority of sentences are accompanied by redundant contextual indicators of plurality, not only outside the sentence in the discourse (87%), but also within the sentence in the noun phrase (91%), and in the verb phrase (25%). So despite a clear net trend toward the elimination of inflectional redundancy, other indications of plurality remain abundant.

We have seen that while it is plain that reorganization has taken place with regard to the standard Spanish rule for plural marking, we have no reason to attribute it to influence from varieties of English. Indeed, as has also been shown in recent studies of syntactic and semantic aspects of the Spanish of this same group of Puerto Rican bilinguals (Poplack 1979b, Pousada and Poplack 1979,

Sankoff and Poplack 1979), the evidence is against convergence at these levels of linguistic structure.

I have shown that the behavior of inflections in East Harlem Spanish does not differ noticeably from that attested for a functionally monolingual Puerto Rican community, nor even, in most particulars, from that of other monolingual speakers of Caribbean dialects of Spanish. Comparisons between the bilingual and Spanish-dominant speakers for each one of the factors mentioned in Section 3 showed no significant difference between the two groups. This finding is all the more striking in view of the fact that while most of the Spanish-dominant speakers learned Spanish in Puerto Rico, where it was also the medium of instruction, the majority of the bilinguals acquired Spanish in New York, outside of any formal schooling.[14] The only significant differences between the groups concerns their comparative preferences for plural marking patterns, a difference which is intrasystemic. It results from generalization of the deletion rule on the part of the bilinguals to environments where its application had been comparatively infrequent.

There is no reason, then, to attribute this behavior to contact with English. It is due rather to a combination of three types of process. First, there is the

old and widespread process of phonological weakening and deletion of syllable-final (s)--first attested in Spain in the 16th century (Lapesa 1965), and particularly well-documented in Caribbean dialects of Spanish. I have shown how determiner inflections, which are resistant to this process in some dialects, are more susceptible to deletion in Puerto Rican Spanish, particularly among balanced bilinguals. Second, there is a redistribution of plural functional load, only partly to the verb, from which plural (n) is rarely deleted, but also, in a diffuse way, to other syntactic, morphological, lexical and semantic mechanisms in the noun phrase, in the sentence, and in the larger context of discourse. Indeed, we have seen how contextual indication of plurality in the discourse determines the presence of a noun phrase in surface structure, but only marginally affects whether it is inflected. Third, there is a quantitative tendency on the syntactic level towards concord, both within the noun phrase and between the noun phrase and verb phrase.

The observed patterns of plural marker presence and deletion can best be understood through the quantitative evaluation of tendencies cross-cutting phonological

processes leading to marker deletion: structural, non-informational marking patterns which may proceed regardless of the semantic role of inflections; functional considerations requiring the transmission of plural information, and the way these interact in the spoken language.

NOTES

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[2] Numbers in parentheses are speaker identification codes.

[3] Cases in English where plurality is also marked on the determiner (e.g. *those*, *two*, *some*) are not considered here. This discussion is limited to marking sequences resulting from inflection.

[4] Alicia Pousada and Greg Guy participated in the coding.

[5] As described in detail in Poplack (1979a), morphological disambiguation refers to morphophonemic changes which may disambiguate plurality even when the markers are deleted (e.g. *flor/flore(s)* 'flower/flowers'; *comió/comieron* 'he ate/they ate'); syntactic disambiguation refers to placement of the noun phrase with regard to verbs and certain prepositions (when the noun follows these directly, it is understood as plural, e.g. *eran persona(s)* 'they were people'); lexical disambiguation refers to forms which are lexically plural, and semantic disambiguation, to shared knowledge between the speaker and interlocutor.

[6] This judgement was made on the basis of a combination of ethnographic observation of language used most frequently, self-report of language that "feels most comfortable", and linguistic analysis.

[7] English-dominant speakers, whose Spanish could be expected to show most influence from English, were not included in the sample, because they simply did not produce enough Spanish to compare quantitatively with the other speakers.

[8] Thirty-four cases of copular verbs with both preceding and following noun phrases were omitted from this calculation.

[9] Because of the relative scarcity of three-element noun phrases (e.g. determiner + noun + adjective), only the determiner and noun were coded for these strings.

[10] 'S' and 'N' refer to any phonetic manifestation of (s) and (n) respectively, other than phonetic zero.

[11] These results are somewhat different from those found in several studies of Brazilian Portuguese (Naro and Lemle 1976 Guy and Braga 1976, Lemle and Naro 1977), where the verb was least likely to be marked for plural when the plural subject was post-posed. In the Puerto Rican data just described verbal markers are most likely to be deleted when markers are also deleted in pre-posed but not post-posed subjects, a situation which is not directly comparable since there are presumably no uninflected plural subject noun phrases in Brazilian Portuguese. However, when the Puerto Rican Spanish noun phrase is inflected, there is almost no difference in verbal deletion rates with pre-posed and post-posed subjects. If anything, verbs appear from Table 7 to be slightly more likely to be marked when the (inflected) subject is post-posed, the opposite effect from that described for Brazilian Portuguese, and one which may be due to the relative infrequency with which (n) is deleted in Puerto Rican Spanish.

[12] This is actually a conservative estimate since in the Philadelphia data the sequences ØS and SS were treated together.

[13] Lefebvre (1980) has detected a similar concord effect between nominal and plural marking in Quechua, a language in which deletion of the plural morpheme is not phonologically conditioned.

[14] This raises the question of whether the different preferences in plural marking patterns for bilingual and Spanish-dominant speakers are due to differential exposure to the standard resulting from learning Spanish

"on the street" as opposed to learning in Spanish in school. Education was not a significant differentiating factor between these two groups in the aforementioned studies, nor was it significant in explaining the behavior of the functionally monolingual speakers, who were all raised in Puerto Rico (Poplack 1979a). It is, however, possible that speakers raised in Puerto Rico receive greater exposure to the standard through non-instructional means--the media, role models, etc.--than they do in New York City. Evidence for possible change in progress due to language contact may come from examining the linguistic behavior of second generation bilingual or English-dominant speakers and the role of the school in retarding such change (forthcoming).

REFERENCES

Cedergren, H. 1973. The Interplay of Social and Linguistic Factors in Panama. Cornell University Ph.D. dissertation.

Guy, G. and M.L. Braga. 1976. Number Concordance in Brazilian Portuguese. Paper presented at the Fifth Annual N-WAVE Conference. Washington, D.C.: Georgetown University.

Labov, W., P. Cohen, C. Robins and J. Lewis. 1968. A study of the non-standard English of Negro and Puerto Rican speakers in New York City. Philadelphia: U.S. Regional Survey.

Lapesa, R. 1965. Historia de la lengua española. Madrid: Escelicer (sixth edition).

Lefebvre, C. 1980. Variation in plural marking: the case of Cuzco Quechua. in Sankoff, D. and H.J. Cedergren (eds.). Proceedings of the Eighth Conference on New Ways of Analyzing Variation. (to appear)

Lemle, M. and A. Naro. 1977. Competências Básicas do Português. Rio de Janeiro: MOBRAL.

Ma, R. and E. Herasimchuk. 1968. The Linguistic Dimensions of a Bilingual Neighborhood. in Fishman, J. et al. (eds.). Bilingualism in the Barrio. New York: Yeshiva University.

Naro, A. and M. Lemle. 1976. Syntactic Diffusion. in Papers from the Parasession on Diachronic Syntax. Chicago: Chicago Linguistic Society.

Pedraza, P. ms. Ethnographic Observations of Language Use in El Barrio.

Poplack, S. 1978. Dialect Acquisition Among Puerto Rican Bilinguals. Language and Society 7:89-103.

_____. 1979a. Function and Process in a Variable Phonology. University of Pennsylvania Ph.D. dissertation.

_____. 1979b. "Sometimes I'll Start a Sentence in Spanish Y TERMINO EN ESPAÑOL": Toward a Typology of Code-Switching. Working Paper #4. Center for Puerto Rican Studies, CUNY.

_____. 1980a. On Deletion and Disambiguation in Puerto Rican Spanish. Language 56:2.

_____. 1980b. Mortal Phonemes as Plural Morphemes. in Sankoff, D. and H.J. Cedergren (eds.). Proceedings of the Eighth Conference on New Ways of Analyzing Variation.

_____. in press. The Notion of the Plural in Puerto Rican Spanish: Competing Constraints on (s) Deletion. in Labov, W. (ed.). Quantitative Analysis of Linguistic Structure. New York: Academic Press.

Pousada, A. and S. Poplack. 1979. No Case for Convergence: The Puerto Rican Spanish Verb System in a Language Contact Situation. in Keller, G. and J. Fishman (eds.). Bilingual Education for Hispanic Students in the United States. Columbia Univeristy: Teachers College Press. (to appear)

Sankoff, D. and S. Poplack. 1979. A Formal Grammar for Code-Switching. MS.

Scherre, M. 1978. A regra de concordância de número no sintagma nominal em português. Pontifícia Universidade Master's dissertation. Rio de Janeiro.

Terrell, T. 1975. Functional Constraints on Deletion of Word-Final /s/ in Cuban Spanish. Berkeley Linguistic Society, vol. 1. Berkeley, California: 431-437.

_____. 1980. Diachronic Reconstruction by Dialect Comparison of Variable Constraints: s-Aspiration and Deletion in Spanish. in Sankoff, D. and H.J. Cedergren (eds.). Proceedings of the Eighth Conference on New Ways of Analyzing Variation.

Wolfram, W., M. Shiels and R. Fasold. 1971. Overlapping Influence in the English of Second Generation Puerto Rican Teenagers in Harlem. Washington,D.C.: Center for Applied Linguistics.

_____. 1974. Sociolinguistic Aspects of Assimilation: Puerto Rican English in New York City. Arlington: Center for Applied Linguistics.